MODIS Technical Team Meeting
Thursday, April 12, 2001
3:00 PM

Bob Murphy chaired the meeting. Present were Chris Justice, Mike Roberto, Gary Alcott, Wayne Esaias, Eric Vermote, Ed Masuoka, Bruce Ramsay, Barbara Conboy, and Jack Xiong, with Rebecca Lindsey taking the minutes.

1.0 Schedule of Upcoming Events

- Terra Cloud Mask Conference — May 8-9, 2001
  University of Wisconsin-Madison

- Ocean Color Science Meeting — May 22-24, 2001
  San Diego, CA

2.0 Meeting Minutes

2.1 General Discussion
The team discussed the issue of recompete and in particular the process of review of maintenance contracts. Murphy indicated that he thought it would be helpful for the team to think of criteria on which the proposals could be evaluated. Justice suggested a DGL meeting. [Post-meeting note: Meeting was held on April 19, 2001.]

2.2 Instrument Update
Terra MODIS

Roberto reported that as the solar angle has decreased from winter maximum, there has been no change in radiative cooler heater power. Also SBRS is doing characterization of the optical properties of the spare SDSM screen to contribute to the refinement of the SDSM model and algorithm. Those tests should be completed Friday, April 13. There was some discussion about who is funding this type of activity, as SBRS has exhausted their funding. Roberto indicated he would check into it. Roberto also reported that they are preparing to use the SRCA for cross talk tests around the 23rd of April.

Aqua MODIS

SBRS, Starsys (which makes actuators and latches), and Goddard are involved in determining what changes, if any, need to be made to door latches and fail safes. Basically the problem with the door failsafe actuator was narrowed down to the outer shell being too soft. SBRS has obtained harder outer shells

now, and the question is do they just replace the outer shell, which would not require re-soldering, or remove and re-qualify the entire actuator, which would require re-soldering. SBRS has spare latches for each door. Starsys is determining proper settings for each latch and latches will be replaced as necessary. Finally Roberto reported that SBRS has completed revision of power and thermal profiles for MODIS operations during the AQUA thermal vacuum test. Justice asked whether there was a problem with MODIS sitting around while waiting for launch. Roberto indicated that the time delays are similar to that which Terra MODIS experienced, and that the instrument should be OK.

Vermote asked whether the delamination in the Band 6 detectors already seen would be exacerbated by further thermal cycling. Xiong indicated that there would be an at-temperature test, in which MODIS was switched on. He indicated that that he would be following the testing, and Justice asked that he notify the team of any significant issues that might arise during testing in order to give them some advance warning.

Murphy reported that a recent coronal eruption caused an atmospheric inflation that necessitated an extra drag make up maneuver on Terra. There were spacecraft anomalies, but no data loss. In bringing the spacecraft back to nominal orientation, the reaction wheels were spun up almost to the levels needed for the deep space calibration maneuver, thereby providing a bonus readiness test.

2.3 GES DAAC Update

Alcott reported that last week the GES DAAC shut down production to push data at double the normal rate to MODAPS. On Monday they resumed production to handle the Oceans team's special request. Shutting down produced a backlog of about 7 days, which they should be able to make up by mid next week. They expect to be in normal production throughout weekend, and will evaluate on Monday or Tuesday when to return to pushing.

Justice asked about the issue of tape recycling, and Alcott indicated he had already responded to that, and that MODIS is in good shape on the issue. The DAAC has received all PGEs this week, and they are handling them. Finally, he indicated that they will be processing the Atmosphere team's special requests when they resume normal production.

2.4 MODAPS Update

Masuoka reported that MODAPS is currently processing February 8 at their leading edge. As far as comparisons between V1 and V2, they still need to improve Dr. Wan's LST product in V2, where it is currently running slower than it did in V1. A backlog on exports to the DAAC and various other issues slowed MODAPS throughput rate to about 0.67x. Masuoka reported that changes have

been made that seem to be handling the problem. The daily products appear to be doing well, but the Land 8-day products are still pending.

Justice noted that it doesn't appear that MODAPS will be caught up with the GES DAAC by the June 1 reprocessing deadline, and that we may find ourselves in a "slip or skip" situation. Esaias indicated that the topic had come up at the PIP meeting, and that a discipline group leader's meeting would be needed on the issue to discuss strategy and tradeoffs. Masuoka indicated that it would improve MODAPS situation if the consistent-year processing could begin with data day May 15. Lastly, Masuoka reported that MODAPS is ready to begin the April 2000 processing for Oceans, and they just need to ingest the ephemeris data.

2.5 Oceans Update

Esaias reported that the Oceans team had a meeting in Miami in which they discussed everything they need to do to be ready by May 1 to deliver all code for the consistent-year reprocessing. The main part of that code delivery is already in at SDST. The last bit of work that needs to be done is clarifying flags and looking for consistency. They have also outlined plans to write product quality statements that would be ready for the June reprocessing.

All Oceans products will be raised to provisional except the phycoerythrin products. The provisional SST product will be the buoy-regression model, not the radiative transfer model. This is the direct consequence of deferring some MODIS PFM characterization activities until on-orbit. It is expected that the better characterization of MODIS FM1 will minimize this problem on Aqua.

Esaias reported that comparison images between MODIS and SeaWiFS indicate that data are starting to look noticeably improved over SeaWiFS, with added precision and structure. However they still have some time-dependency issues that need to be resolved by working with MCST and SDST.

Lastly, Esaias reported that they have a couple of papers planned for the special edition of an IEEE publication for Aqua that Claire Parkinson informed that group about, and they are preparing a series of articles on Ocean Color.

2.6 Land Update

Justice reported that they had received submissions for the special edition of Remote Sensing of Environment, and those articles are going out for review. In addition, there will be a MODIS Land presentation at the upcoming IGARRS meeting. Justice also reported that there is an ongoing dialogue about the development of a rapid response system for fire products, and that the Forest Service is interested in participating. NOAA has agreed to let the rapid response system tap into their L0 feed.

2.7 NOAA-NESDIS Update

Ramsay presented view graphs showing that in any 24-hour period, there are several granules missing from the L0 data stream they receive. In addition there can be as many as thirty granules missing per day due to undelivered orbital passes. The missing orbits may make much of the data that NOAA wished to pass to the NWS unusable for assimilation into regional and global models. They are hoping that working with SDST can resolve the issue of more timely backfilling of missing granules. NOAA can accommodate 7 or 8 missing granules a day for bit flips, but not many more than that. Esaias asked why they don't use direct broadcast. Ramsay indicated that NWS eventually would require global data, not just CONUS.

2.8 MAST Update

Conboy reported that MAST had delivered the posters that Vince Salomonson had requested for Dr Asrar to the graphics department, and that they should be ready in a about two and a half weeks.

3.0 Action Items

3.1 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.

Status: Open.

3.2 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.

3.3 Masuoka to give Murphy an update on product releases.